

Statutory Roles

85280. Delta Independent Science Board

- (3) "shall provide oversight of the scientific research, monitoring, and assessment programs that support adaptive management of the Delta through periodic reviews of each of those programs that shall be scheduled to ensure that all Delta scientific research, monitoring, and assessment programs are reviewed at least once every four years."
- (4) "shall submit to the council a report on the results of each review, including recommendations for any changes in the programs reviewed by the board."
- (b1) "After consultation with the Delta Independent Science Board, the council shall appoint a lead scientist for the Delta Science Program."

85308. "The Delta Plan shall meet all of the following requirements: (a) Be based on the best available scientific information and the independent science advice provided by the Delta Independent Science Board."

85320. "(c) The department shall consult with the council and the Delta Independent Science Board during the development of the BDCP. ... The Delta Independent Science Board shall review the draft environmental impact report and submit its comments to the council and the Department of Fish and Game."

DISB Members

- **Chair** Stephen Brandt, Ph.D., Professor, Department of Fisheries and Wildlife, Oregon State University, Corvallis, OR
- **Chair Elect** Elizabeth Canuel, Ph.D., Professor, Department of Physical Sciences, School of Marine Science, College of William & Mary, Gloucester Point, VA
- **Past Chair** Jay Lund, Ph.D., Director, Center for Watershed Sciences, and Professor of Civil and Environmental Engineering, Univ. of California, Davis
- Brian Atwater, Ph.D., Geologist, U.S. Geological Survey and Univ. of Washington, Seattle, WA
- Tracy Collier, Ph.D., Science Director for the Puget Sound Partnership, Retired Harindra Fernando, Ph.D., Professor of Engineering, University of Notre Dame Richard Norgaard, Ph.D., Professor Emeritus, Energy and Resources Group, University of California, Berkeley
- Vincent Resh, Ph.D., Professor of Entomology, Department of Environmental Science, Policy, and Management, University of California, Berkeley
- John Wiens, Ph.D., Emeritus University Distinguished Professor, Colorado State University
- Joy Zedler, Ph.D., Professor of Botany and Aldo Leopold Chair of Restoration Ecology at University of Wisconsin-Madison

Activities

Year	Review Reports Completed
2011	3
2012	5
2013	7
2014	3 (incl. BDCP)
2015	3 (incl. BDCP)
2016	4
2017	7 (incl. WaterFix)
Underway	3
Total	32 reports completed in 6.5 years

About 5 reviews per year.

Try to keep reports short and readable (easier to write).

Recent Activities

2017 Review Reports:

*Final EIR/EIS for California WaterFix	SBX7 1, 2009 Reform Act	6/17
Draft 2017-21 Science Action Agenda	Delta Science Program	6/17
Delta as an Evolving Place	Delta Plan, Chapter 5	5/17
EcoRestore Adaptive Management White Paper	EcoRestore	5/17
Science Enterprise Workshop	Delta Stewardship Council	3/17
*SWRCB Draft Phase II Scientific Basis Report	SWRCB	2/17
Response to Performance Measures	Delta Stewardship Council	2/17

Paper in San Francisco Estuary and Watershed Sciences: "Facilitating Adaptive Management in California's Sacramento—San Joaquin Delta"

SWRCB Draft Phase II Scientific Basis Report

Draft scientific basis for State Water Resources Control Board for new environmental flow requirements on northern and eastern tributaries, Delta outflow, and Delta interior. About 400 pages.

Clearly-written, informative, well-illustrated, insightful.

Main recommendations:

- Clarifying SWRCB flow budget proposal current explanation confusing
- Compare alternative scientific approaches for setting environmental flows
- More on temperature, non-flow stressors, climate change, adaptive management

Final WaterFix EIR/EIS Review (30,000 + pages)

The Good:

- Impressive breadth and depth of impact analysis in many areas
- Improvements over previous drafts

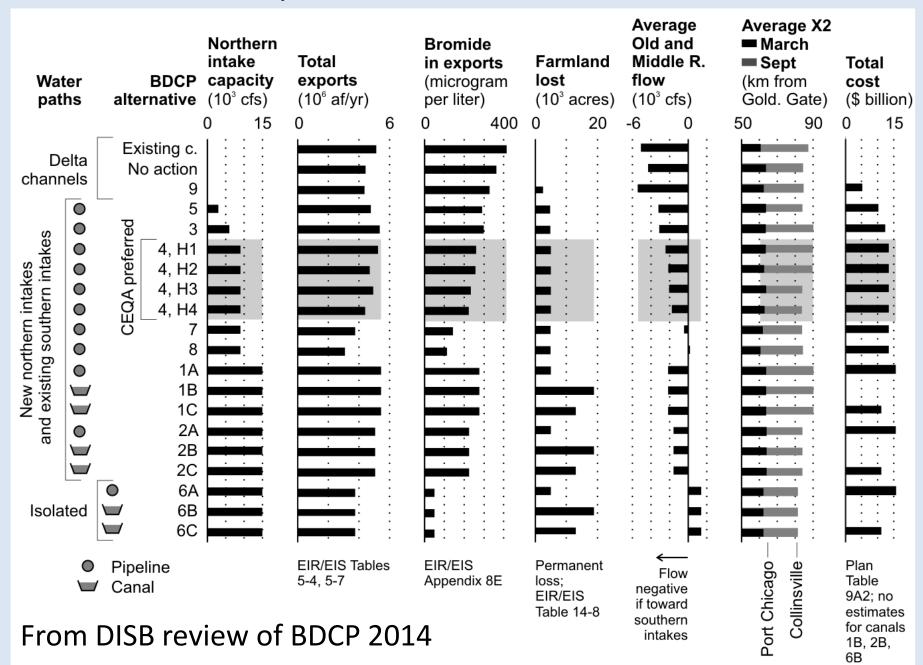
Remaining gaps:

- Adaptive management
- Clear informative organization of most important trade-offs for decisions
- Other smaller bits

Major concern with the ineffective distillation of information useful to decision-makers and public from poor structuring of information in EIR/EIS document drafts and final:

- More eyestrain than insight
- Misses intent of NEPA and CEQA
- Poor use of resources, time, and public and agency attention
- Missed opportunity for better discussion of difficult problem

Final WaterFix EIR/EIS Review



Coming Attractions

Ongoing Review Topics:

- Conveyance, Storage, and Operations Delta Plan Amendments
- Water Quality (mostly toxics and nutrients)
- Comprehensive Monitoring Enterprise

Anticipated Reviews Topics:

- Water Supply Reliability
- Ecosystems
- Restoration
- Water Quality (temperature, salinity, dissolved oxygen, turbidity)
- Delta Plan Ecosystem Amendment
- Other requested reviews



Thank you to Dr. Cliff Dahm for repeated service as Delta Lead Scientist.

The strong independent legacy of past Lead Scientists is a foundation for improving science-based decisions and adaptive management.

Lead Scientist for Delta Science Program

"85280. (b) After consultation with the Delta Independent Science Board, the council shall appoint a lead scientist for the Delta Science Program.

- (1) The lead scientist shall meet all of the following qualifications:
- (A) Hold an advanced degree in a field related to water or ecosystem management.
- (B) Have a strong record of scientific research and publication in peer-reviewed scientific journals in a field related to water or ecosystem management.
- (C) Have experience advising high-level managers in science-based decisionmaking in the areas of water management and ecosystem restoration.
- (D) Have the capability to guide the application of an adaptive management process to resource management policy decisions in the Delta."

The job

- "(2) The term of office for the lead scientist shall be no more than three years. The lead scientist may serve no more than two terms.
- (3) The lead scientist shall oversee the implementation of the Delta Science Program. In carrying out that responsibility, the lead scientist shall regularly consult with the agencies participating in the program.
- (4) The mission of the Delta Science Program shall be to provide the best possible unbiased scientific information to inform water and environmental decisionmaking in the Delta. ..."

Formal hiring by USGS providing a balance of federal involvement.

Applicants and interview process

Four well-qualified applicants:

- References checked extensively
- One dropped out with a lucrative retention package in current job
- Three interviewed

Interview panel:

- 3 DISB members: Jay Lund, Vince Resh and Steve Brandt
- 3 Delta Stewardship Council: Randy Fiorini, Susan Tatayon, and Jessica Pearson
- 2 USGS: Mike Chotkowski and Michelle Shouse

Two days of in-person interviews and discussions
Observed panel discussions with DSC staff and Delta stakeholders

Written essay question

The nominee

Interview committee recommended to DISB:

- Professor John Callaway, Department of Environmental Science, University of San Francisco
- PhD, Louisiana State University
- MA, San Francisco State University
- BAs, Biology and Slavic Languages, UC Berkeley
- Professor at USF since 1999
- 2013 Distinguished Research Award, USF
- Extensive work on salt marsh restoration, sedimentation, San
 Francisco Bay, So. Cal. wetlands, Louisiana wetlands, Suisun Marsh
- 55 Refereed journal papers

DISB reviewed and recommends for Delta Lead Scientist:

 Professor John Callaway, Department of Environmental Science, University of San Francisco